

REMARKS

We wish to advise the Examiner that a Petition for Extension of Time has been forwarded separately by FedEx courier. Appropriate fees of \$460 also accompany the Petition.

Referring to item 2 of the Office Action, claims 177 and 178 have been amended to overcome the informalities mentioned by Examiner.

Referring to item 4:


(a) "1.5 * 10^4" is text notation for the number "1.5 times (10 to the power of 14)". It is respectfully submitted that this is standard scientific notation that is well known in the computing and mathematics fields. Notwithstanding this point, the term has been replaced by "1.5 x 10¹⁴" in the relevant claims. It is anticipated that this format will be more familiar to the Examiner.

(b) Claim 168 has been deleted and claim 169 has been amended to depend on claim 167.

Referring to item 5, claims 40, 61, 62 and 108 have been amended to overcome the antecedent issues raised by the Examiner.

Turning to the claim rejections, Examiner will note that claim 1 has been amended to incorporate the feature originally defined in claim 23, and claim 23 has correspondingly been deleted. Claims 88 and 89 have been amended to incorporate the feature of claim 113, which has been deleted. The independent claims are now restricted to the feature whereby the coded data and the information are printed substantially simultaneously onto the substrate.

Examiner will note that a number of other minor clarifying amendments have been made to the language of various claims, and dependencies have been adjusted to account for



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the claim deletions. It is submitted that none of the claim amendments raise new issues for search or review.

It is submitted that the 35 USC 102 rejections of various claims based on Dymetman et al are no longer relevant in view of these amendments.

Applicant is unsure as to why original claim 23 was rejected by way of a proposed combination of Dymetman and Cass, whilst original claim 113 was rejected by way of a proposed combination of Dymetman and Dougherty. Applicant believes that claims 23 and 113 were generally corresponding in scope, and that one or the other combination of these documents should have been applied to both claims. Moreover, Examiner suggests that Dougherty is concerned with the provision of an identity to a stylus, and Cass is directed to the provision of on-demand printing, whilst claims 23 and 113 were concerned with neither of those principles.

Notwithstanding this, Dymetman, Dougherty and Cass will now be discussed.

To begin with, Dymetman is concerned providing pages that are pre-printed with coded data, which encodes an action/medium identifier. User information can be printed onto the pages at a later date (column 11, lines 52 to 65). In the embodiment described at column 17, lines 18 to 35, the pre-printed pages are used to capture handwriting via a coded data capture device.

Dymetman fails to disclose the simultaneous printing of coded data and information onto a surface prior to interacting with the surface using a sensing device, as is defined in each of the independent claims as amended. Rather, Dymetman is concerned exclusively with providing pre-printed pages using specialised equipment, which are purchased prior to further use (column 11, lines 52 to 65). Dymetman does not discuss how these pre-printed pages would be used, but in any event, there is certainly no disclosure or suggestion of simultaneously printing coded data and information relating to computer software onto a substrate, and then using that substrate in the manner defined in the independent claims. Moreover, none of the citations discloses these features in any way that could be

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meaningfully applied to Dymetman. We cannot find any point in the Office Action that mentions this issue, notwithstanding the rejection of claims 23 and 113 that specifically dealt with this feature.

Applicant also points out that Dymetman teaches directly away from the provision of simultaneous coded data and information related to computer software. At no point in Dymetman is such simultaneity disclosed or suggested. The only discussion of how the coded data is disposed on the substrate is at column 11, lines 52 to 65, where it is made clear that the process of printing the coded data is performed as a separate operation to any other printing. On this basis, it is submitted that Dymetman is not a suitable piece of prior art for use in conjunction with another piece of prior art in order to anticipate the invention under 35 U.S.C. 103(a).

For all of these reasons, Applicant respectfully submits that the invention as defined in the independent claims is patentable over the cited art.

Given that Examiner also rejected claims 23 and 113 upon which present independent claims are based, the relevant citations will now be discussed.

US 6,076,734 - Dougherty et al

Dougherty was cited in combination with Dymetman against, *inter alia*, claim 113. Dougherty is concerned with the provision of a code on a stylus used with an interface surface. This is mainly used for security and ratings purposes, to limit access to certain types of content on the basis of the user's access rights.

There is no disclosure in Dougherty of simultaneously printing coded data and information related to computer software onto a substrate, as defined in the present independent claims. Moreover, Dougherty is explicitly concerned with simple region-based encoding, and in no way contemplates provision of movement sensing in its sensor.

US 5,692,073 - Cass et al

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Cass is concerned with a paper-based internet access system in which an electronic version of (say) a web page is faxed to a user. The web page incorporates, for example, one or more hyperlinks, along with other information. There is no disclosure that the hyperlink is in any way represented using coded data. A user reads the printed page, and uses a pen or pencil to make a visual indication of a selected action. According to the disclosure, this can be achieved by circling or underlining a hyperlink on the printed page. The page is then fed back into the fax machine, where it is scanned and sent back to a server. The server compares the electronic document with what has been scanned. By performing a simple difference operation between the two versions, it can be ascertained what mark has been added by the user, and the position and extent of the mark interpreted in relation to the HTML document to determine an action to be performed. In the case of a hyperlink, this action would be the retrieval of another web page to which the hyperlink refers.

This system is clearly not relevant to the present invention as claimed. Whilst there is disclosed a sensing device in the form of a fax machine, the device does not read coded data on the substrate. This is because the substrate only contains human-readable data, which is marked with a pen before scanning. All that is scanned is the page that was originally printed along with any marks made subsequently.

There is certainly no disclosure of simultaneous printing of coded data and information relating to computer software, as defined in the present case.

PCT INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Whilst we appreciate that examination under the PCT system is not binding on the USPTO, we mention that the IPER issued in this case (copy enclosed) considered many of the claims of the present case novel and inventive over a number of citations, including a number raised in the present case. These include claims 23 and 113, upon which the amended independent claims are based.

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CONCLUSION

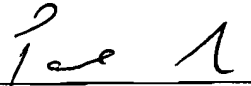
For all of the reasons above, it is respectfully submitted that the claims as amended are patentable over the prior art, either directly or due to their dependence on an independent claim that is itself patentable.

Favourable reconsideration of the application is respectfully requested.

Very respectfully,



KIA SILVERBROOK



PAUL LAPSTUN

C/o: Silverbrook Research Pty Ltd
393 Darling Street
Balmain NSW 2041, Australia
Email: Kia.silverbrook@silverbrookresearch.com
Telephone: +612 9818 6633
Facsimile: +61 2 9818 6711

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VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the Claims:**

Claims 1, 23, 62, 113, and 168 have been cancelled.

Claims 2, 3, 7, 10, 14, 19, 22, 24 to 30, 40, 61, 78, 81, 84, 88, 89, 108, 112, 169, 177 and 178 have been amended as follows:

2. (Amended) A method of enabling user interaction with computer software running in a computer system, the method including the steps of:

(a) providing an interface surface containing: information relating to the computer software; and coded data indicative of at least one interactive element relating to the computer software, wherein the information and the coded data are printed substantially simultaneously onto a substrate; and

_____ in the computer system:

(ab) receiving indicating data from a sensing device, the indicating data being indicative of: the at least one interactive element; and movement data generated by the sensing device, the movement data being indicative of the sensing device's movement relative to the interface system, the indicating data being sensed when the sensing device is placed in an operative position relative to the interface surface;

(bc) receiving the movement data from the sensing device;

(ed) identifying the at least one interactive element from the indicating data; and

(de) operating the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the at least one interactive element.

3. (Amended) A method according to claim ~~1~~ or 2, wherein the interactive element is a hyperlink element relating to the computer software, the method including the step of effecting, in the computer system, an operation associated with the hyperlink element.

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7. (Amended) A method according to claim ~~1~~-or-2, wherein the interactive element is a checkbox field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a hand-drawn mark by means of the sensing device and effecting, in the computer system, an operation associated with the checkbox field.
10. (Amended) A method according to claim ~~1~~-or-2, wherein the interactive element is a text field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered handwritten text data by means of the sensing device and effecting, in the computer system, an operation associated with the text field.
14. (Amended) A method according to claim ~~1~~-or-2, wherein the interactive element is a signature field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a handwritten signature by means of the sensing device and effecting, in the computer system, an operation associated with the signature field.
19. (Amended) A method according to claim ~~1~~-or-2, wherein the interactive element is a drawing field related to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a hand-drawn picture by means of the sensing device and effecting, in the computer system, an operation associated with the drawing field.
22. (Amended) A method according to claim ~~1~~-or-2, wherein including the step of printing the interface surface onto the substrate is performed on demand.
24. (Amended) A method according to claim 23, wherein the coded data is printed onto the surface to be substantially invisible to an unaided human eye.

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25. (Amended) A method according to claim ~~1-~~or~~2~~, including the step of retaining a retrievable record of each interface surface printed, the interface surface being retrievable using the identity contained in its associated coded data.
26. (Amended) A method according to claim ~~1-~~or~~2~~, including the step of distributing a plurality of the interface surfaces using a mixture of multicast and pointcast communications protocols.
27. (Amended) A method according to claim ~~1-~~or~~2~~, the sensing device containing an identification means that imparts a unique identity to the sensing device and identifies it as belonging to a particular user, wherein the method includes the step of monitoring, in the computer system, said identity.
28. (Amended) A method according to claim ~~1-~~or~~2~~, including the step of providing sufficient information relating to the computer software in the interface surface to eliminate the need for a separate display device.
29. (Amended) A method according to claim ~~1-~~or~~2~~, wherein the interface surface is printed on multiple pages, the method including the step of binding the pages.
30. (Amended) A method according to claim ~~1-~~or~~2~~, wherein the coded data includes at least one tag, each tag being indicative of the at least one interactive element.
40. (Amended) A method according to claim 30, wherein each of the tags includes at least one common feature in addition to the ~~second~~-identity data.
61. (Amended) A method according to claim 30, wherein the ~~first~~-identity data is

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represented in a format incorporating redundancy of information.

78. (Amended) A method according to claim 1-~~or~~-2, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to draw the user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to draw the user input onto the surface.

81. (Amended) A method according to claim 1-~~or~~-2, including the step of providing the user with printed information including position elements, the position elements being disposed on a surface, the sensing device being configured to periodically sense position elements as it is used to draw the user input onto the surface, the method including the step of generating the movement data in the form of a locus of the sensing means in relation to the surface by ascertaining relative displacement of the sensing means with respect to at least one of the position elements.

84. (Amended) A method according to claim 1-~~or~~-2, wherein the movement data is generated by ascertaining a locus of the sensing device in relation to the surface by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to draw the user input thereon.

88. (Amended) A system for enabling user interaction with computer software running in a computer system via:

an interface surface ~~containing~~ including information relating to the computer software; and ~~including~~ coded data indicative of at least one interactive element relating to the computer software, the information and coded data having been printed substantially simultaneously onto a substrate to form the interface surface; and

a sensing device ~~which~~ that senses, when placed in an operative position relative to

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the interface surface and via the coded data, senses-indicating data indicative of the at least one interactive element and generates movement data indicative of the sensing device's movement relative to the interface surface;

the system being configured to, in the computer system:

- (a) receive the indicating data from the sensing device;
- (b) receive the movement data from the sensing device;
- (c) identify the at least one interactive element from the indicating data; and
- (d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the at least one interactive element.

89. (Amended) A system for enabling user interaction with computer software running in a computer system, the system including:

an interface surface including: containing information relating to the computer software; and including coded data indicative of at least one interactive element relating to the computer software, the information and coded data having been printed substantially simultaneously onto a substrate to form the interface surface;

the system being configured to, in the computer system:

- (a) receive indicating data from a sensing device, the indicating data being indicative of the at least one interactive element, wherein the sensing device, when placed in an operative position relative to the interface surface, senses the indicating data via the coded data and generates movement data indicative of the sensing device's movement relative to the interface surface;
- (b) receive the movement data from the sensing device;
- (c) identify the at least one interactive element from the indicating data; and
- (d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the at least one interactive element.

108. (Amended) A system according to claim 10641, the computer system being

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configured to send, to the computer software, data indicative of at least the drawing field.

112. (Amended) A system according to 88 or 89, the computer system including a printer to print the information onto the interface surface on demand prior to use of the sensing device to sense the indicating data.

169. (Amended) A system according to claim 167~~8~~, wherein the accelerometers are configured to measure at least two orthogonal components of acceleration.

177. (Amended) A region according to any one of claims 1 to 6, 35, 38 to 43, 55 to 64, or 67, wherein the coded data is machine readable, and the information represented by the coded data is substantially inscrutable to an unaided human.

178. (Amended) A method according to any one of claims 82 to 88, 93, or 96 to 99, wherein the coded data is machine readable, and the information represented by the coded data is substantially inscrutable to an unaided human.